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Intel Core i9-13900K testing with a ASUS PRIME Z790-P WIFI (0602 BIOS) and AMD Radeon RX 6800 XT 16GB on Ubuntu 22.04 via the Phoronix Test Suite.

Automated Executive Summary

c had the most wins, coming in first place for 62% of the tests.

Based on the geometric mean of all complete results, the fastest (c) was 1.002x the speed of the slowest (a). d was 1x the speed of c, b was 1x the speed of d, a was 0.999x the speed of b.

Test Systems:

a

b

c

d

Processor: Intel Core i9-13900K @ 4.00GHz (24 Cores / 32 Threads), Motherboard: ASUS PRIME Z790-P WIFI (0602 BIOS), Chipset: Intel Device 7a27, Memory: 32GB, Disk: 1000GB Western Digital WDS100T1X0E-00AFY0, Graphics: AMD Radeon RX 6800 XT 16GB (2575/1000MHz), Audio: Realtek ALC897, Monitor: ASUS VP28U, Network: Realtek RTL8125 2.5GbE + Intel Device 7a70

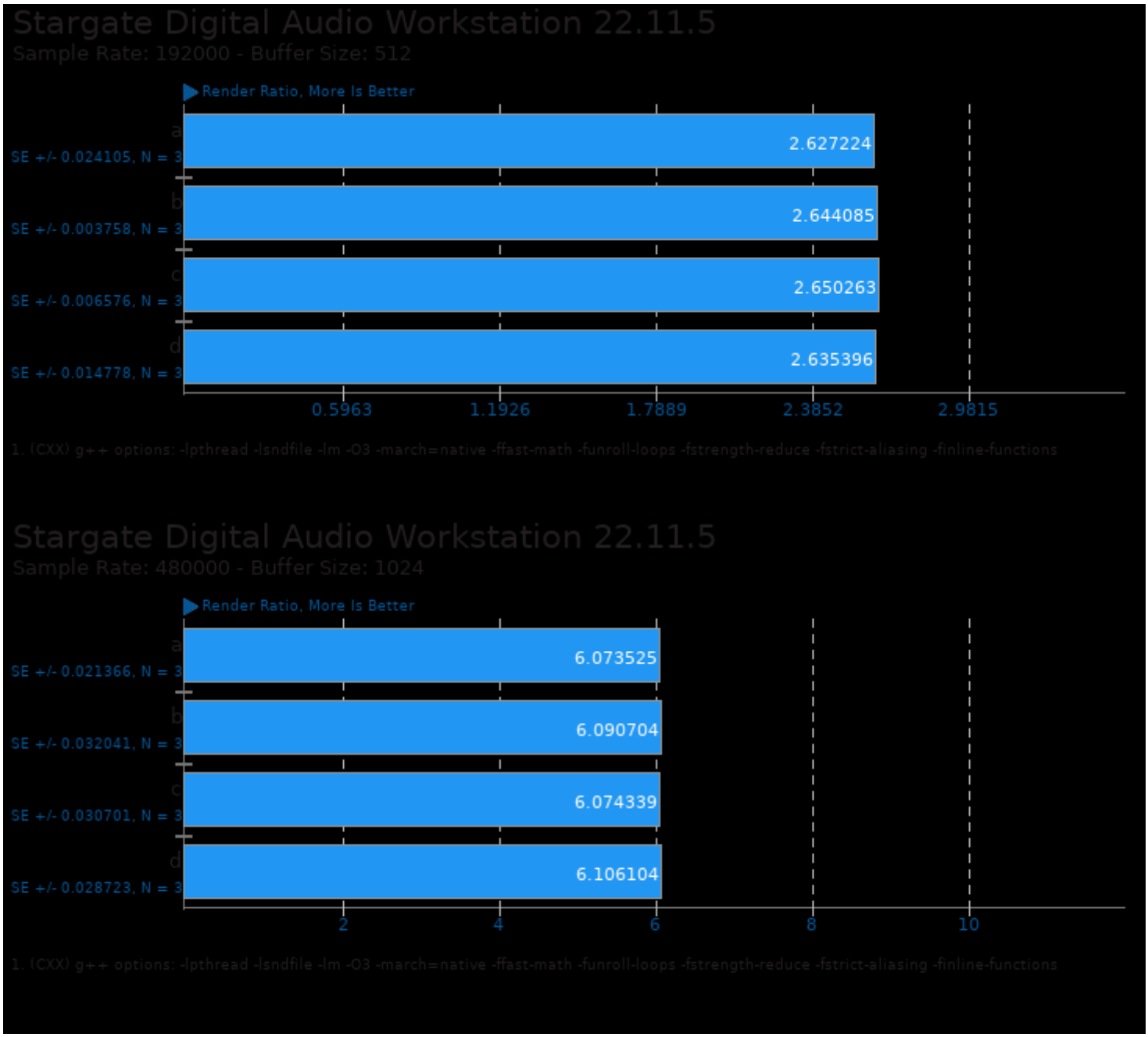
OS: Ubuntu 22.04, Kernel: 5.18.19-051819-generic (x86_64), Desktop: GNOME Shell 42.5, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.0.5 (LLVM 13.0.1 DRM 3.46), Vulkan: 1.3.204, Compiler: GCC 11.3.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-gcn/usr --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave (EPP: balance_performance) - CPU Microcode: 0x10e - Thermald 2.4.9
Python Notes: Python 3.10.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling PBRSB-eIBRS: SW sequence + srbds: Not affected + tsx_async_abort: Not affected

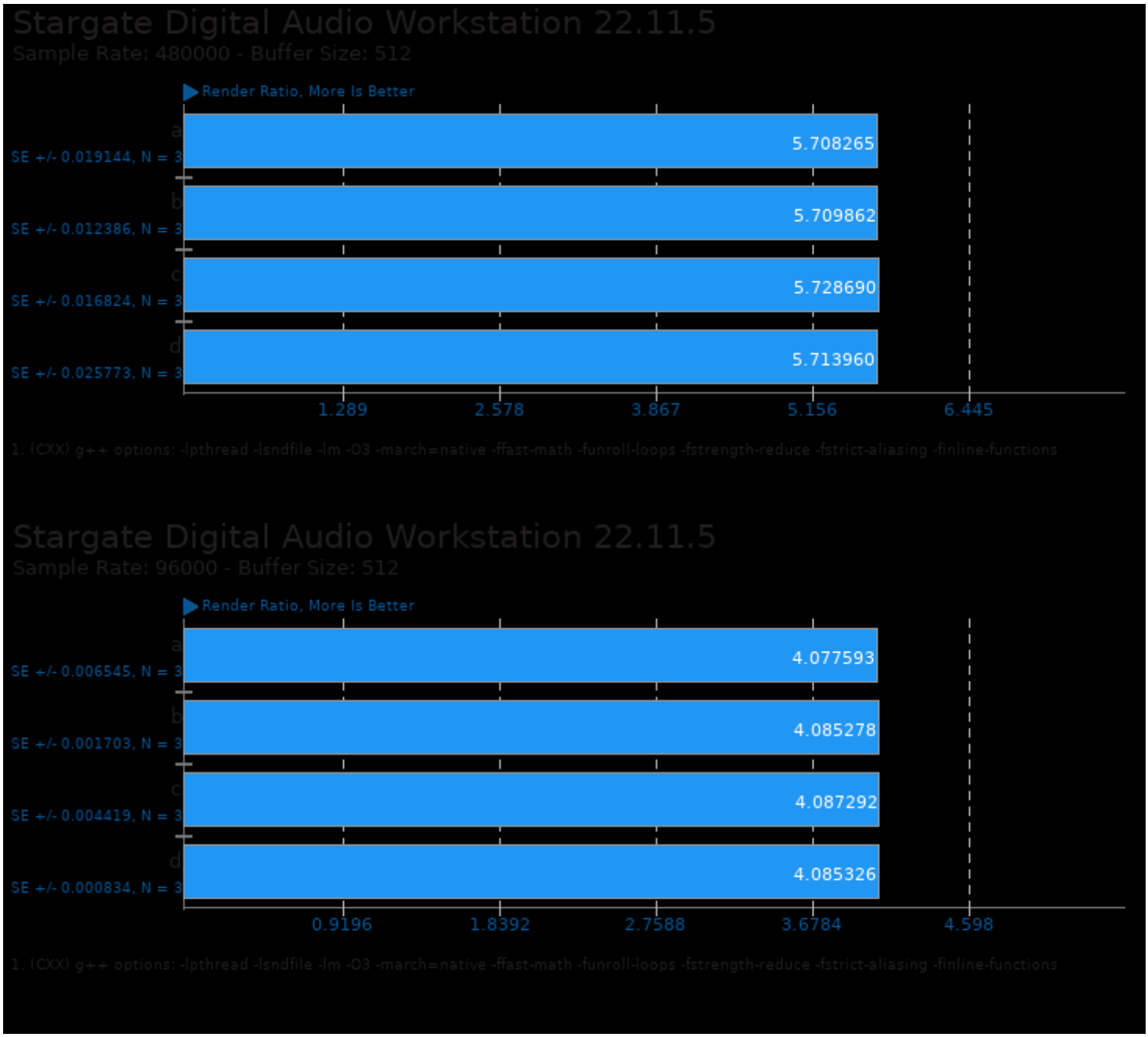
	a	b	c	d
Stargate Digital Audio Workstation - 192000 - 512 (Render Ratio)	**2.627224**	2.644085	**2.650263**	2.635396
Normalized	99.13%	99.77%	100%	99.44%
Standard Deviation	1.6%	0.2%	0.4%	1%
Stargate Digital Audio Workstation - 480000 - 1024 (Render Ratio)	**6.073525**	6.090704	6.074339	**6.106104**
Normalized	99.47%	99.75%	99.48%	100%
Standard Deviation	0.6%	0.9%	0.9%	0.8%
Stargate Digital Audio Workstation - 480000 - 512 (Render Ratio)	**5.708265**	5.709862	**5.728690**	5.713960
Normalized	99.64%	99.67%	100%	99.74%
Standard Deviation	0.6%	0.4%	0.5%	0.8%
Stargate Digital Audio Workstation - 96000 - 512 (Render Ratio)	**4.077593**	4.085278	**4.087292**	4.085326
Normalized	99.76%	99.95%	100%	99.95%
Standard Deviation	0.3%	0.1%	0.2%	0%
Stargate Digital Audio Workstation - 96000 - 1024 (Render Ratio)	4.514337	**4.505748**	4.507275	**4.515061**
Normalized	99.98%	99.79%	99.83%	100%
Standard Deviation	0.5%	0.2%	0%	0.4%
Stargate Digital Audio Workstation - 192000 - 1024 (Render Ratio)	**3.046305**	3.047670	3.047362	**3.052487**
Normalized	99.8%	99.84%	99.83%	100%
Standard Deviation	0.2%	0.4%	0.3%	0.4%

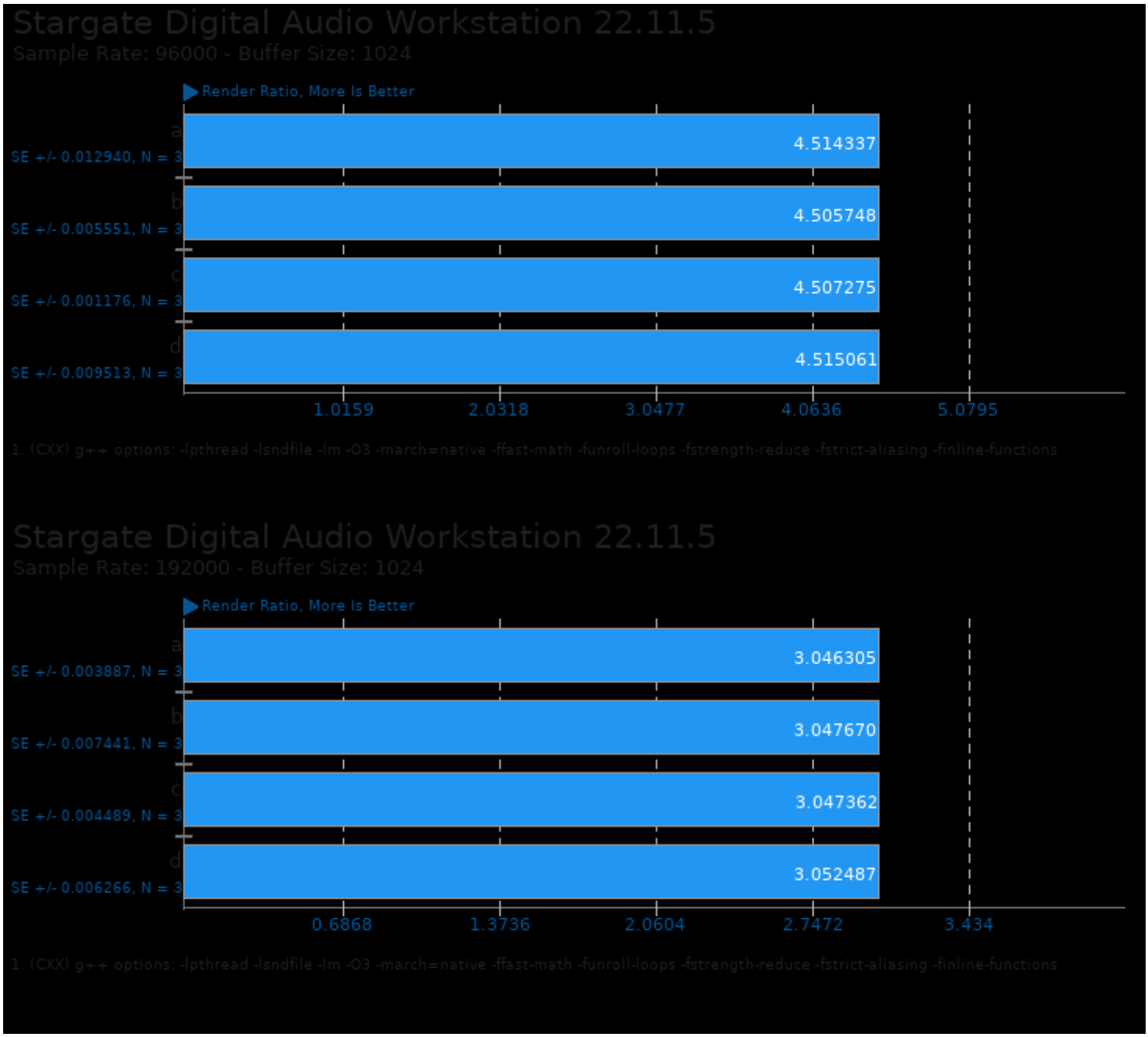
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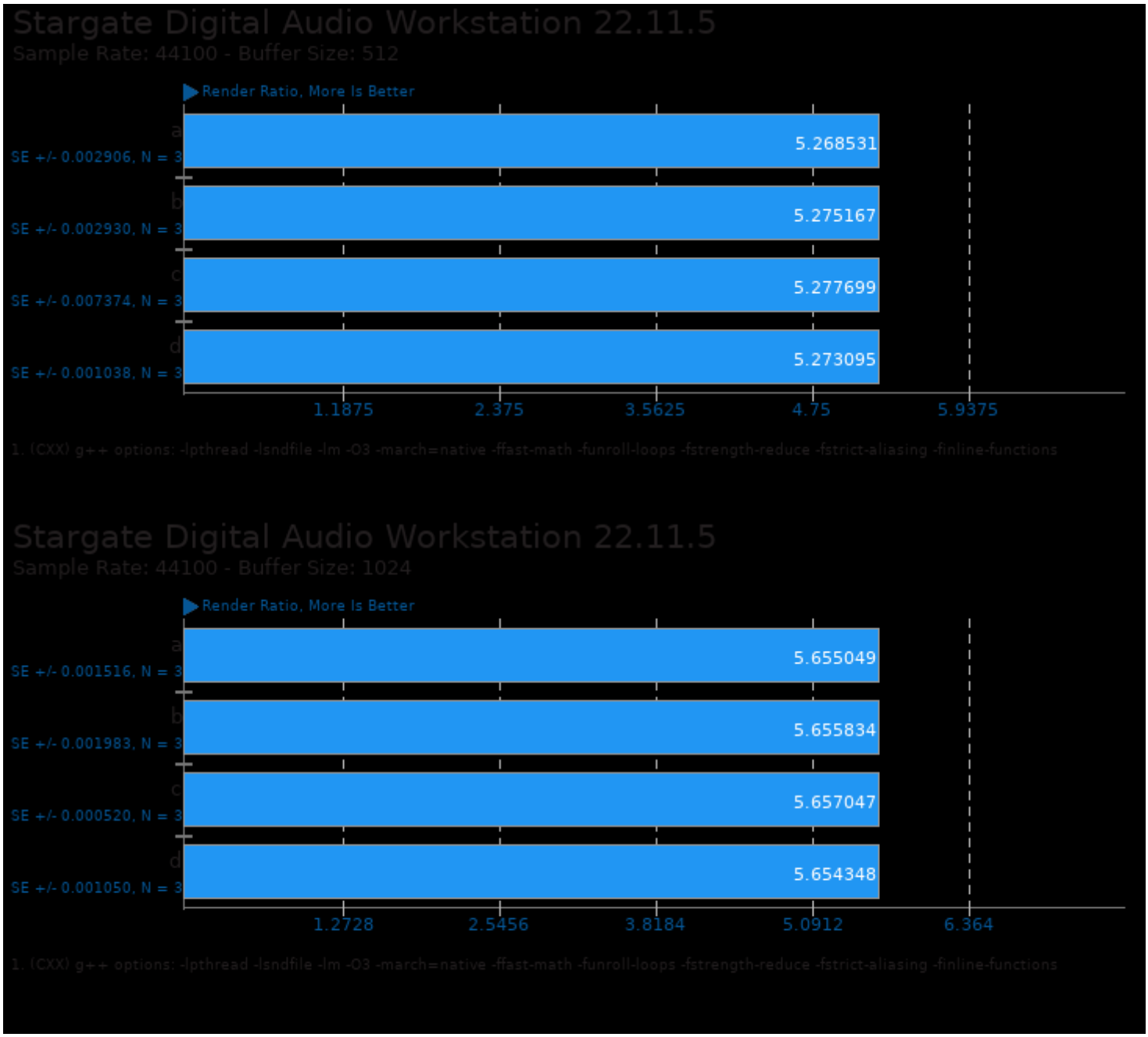
Stargate Digital Audio Workstation - 44100 - 512 (Render Ratio)	**5.268531**	5.275167	**5.277699**	5.273095
Normalized	99.83%	99.95%	100%	99.91%
Standard Deviation	0.1%	0.1%	0.2%	0%
Stargate Digital Audio Workstation - 44100 - 1024 (Render Ratio)	5.655049	5.655834	**5.657047**	**5.654348**
Normalized	99.96%	99.98%	100%	99.95%
Standard Deviation	0%	0.1%	0%	0%


Stargate Digital Audio Workstation 22.11.5
Sample Rate: 192000 - Buffer Size: 512
Render Ratio, More Is Better
a
SE +/- 0.024105, N = 3
2.627224
b
SE +/- 0.003758, N = 3
2.644085
c
SE +/- 0.006576, N = 3
2.650263
d
SE +/- 0.014778, N = 3
2.635396
0.5963
1.1926
1.7889
2.3852
2.9815
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 22.11.5
Sample Rate: 480000 - Buffer Size: 1024
Render Ratio, More Is Better
a
SE +/- 0.021366, N = 3
6.073525
b
SE +/- 0.032041, N = 3
6.090704
c
SE +/- 0.030701, N = 3
6.074339
d
SE +/- 0.028723, N = 3
6.106104
2
4
6
8
10
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

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Stargate Digital Audio Workstation 22.11.5
Sample Rate: 96000 - Buffer Size: 1024
Render Ratio, More Is Better
a
SE +/- 0.012940, N = 3
4.514337
b
SE +/- 0.005551, N = 3
4.505748
c
SE +/- 0.001176, N = 3
4.507275
d
SE +/- 0.009513, N = 3
4.515061
1.0159
2.0318
3.0477
4.0636
5.0795
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 22.11.5
Sample Rate: 192000 - Buffer Size: 1024
Render Ratio, More Is Better
a
SE +/- 0.003887, N = 3
3.046305
b
SE +/- 0.007441, N = 3
3.047670
c
SE +/- 0.004489, N = 3
3.047362
d
SE +/- 0.006266, N = 3
3.052487
0.6868
1.3736
2.0604
2.7472
3.434
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions



This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 03:54.